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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,808	02/26/2007	Ralf Schaetzle	4012402402 (V 7828/KK)	8686
30636 7590 09/11/2008 FAY KAPLUN & MARCIN, LLP 150 BROADWAY, SUITE 702 NEW YORK, NY 10038				
EXAMINER				
LEE, CHUN KUAN				
ART UNIT		PAPER NUMBER		
2181				
MAIL DATE		DELIVERY MODE		
09/11/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/582,808

**Applicant(s)**

SCHAETZLE, RALF

**Examiner**

Chun-Kuan Lee

**Art Unit**

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### **RESPONSE TO ARGUMENTS**

1. Applicant's arguments, see pages 6-8, filed 07/16/2008, with respect to the rejections of claims 1-19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Andreas et al. (US Patent 6,928,501). Objection to claims 15-16 is withdrawn. Rejection of claims 1-2, 11, 13, 16 and 18 under 35 U.S.C. 112 second paragraph is withdrawn. Rejection of claims 9 and 17 under 35 U.S.C. 112 second paragraph is maintained. Currently, claims 1-19 are pending for examination.

#### **I. REJECTIONS BASED ON 35 U.S.C. 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9\*10 and 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the particular slave device" in line 2 of claim 9. There is insufficient antecedent basis for this limitation in the claim.

As per claim 9, line 2, it is not fully clear if "a unique address" is the same/different unique address previously recited; the examiner will assume the claim limitation of "the unique address" for the current examination.

As per claim 9, line 2, it is not fully clear which "particular slave device" the applicant is referring to; the examiner will assume the claim limitation of "a particular slave device" for the current examination.

As per claim 17 in line 2, it is not fully clear to the examiner if the "unique address" is the same/different unique address previously recite, the examiner will assume the claimed limitation of "... enter together with the unique address ..." for the current examination.

As per claims 10 and 18, dependent claims 10 and 18 are also rejected at least due to direct dependency on the rejected claims 9 and 17.

## **II. REJECTIONS BASED ON PRIOR ART**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over "HART, Field Communication Protocol, Application Guide" in view of Andreas et al. (US Patent 6,928,501) and Brooke (US Patent 5,909,591).

HART, Field Communication Protocol, Application Guide teaches a method of configuring a HART multidrop system, the system including at least one master device and a plurality of slave devices coupled to a master device (Fig. 8, on p. 22 and Fig. 9, on p. 23), the method comprising the steps of:

connecting the slave devices (Fig. 8, on p. 22 and Fig. 9, on p. 23);

switching on a power source of the at least one master device for the slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

the HART command being preprogrammed to cause the slave devices automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-23), as the standard HART command transferred in the multidrop system would initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: transmitting the HART command ... , obtain an identical address not equal to zero; and changing the identical addresses for the slave devices to a unique address for each slave device.

Andreas a system and a method comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, the HART command would be broadcast;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero;

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50); and

changing received address to a unique address for a module (col. 3, l. 28 to col. 4, l. 12).

Brooke teaches an automatic system and method comprising changing addresses for the modules to a unique address for each module (col. 2, ll. 19-53), in combination with Andreas' teaching, the identical address is changed to the unique address for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas, col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 1.

4. Claims 2-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over "HART, Field Communication Protocol, Application Guide" in view of "About HART: Part 1," Andreas et al. (US Patent 6,928,501) and Brooke (US Patent 5,909,591).

5. As per claim 2, HART, Field Communication Protocol, Application Guide teaches a method of configuring an existing HART multidrop system, the system including (i) a master device, (ii) a plurality of slave devices connected to the at least one master device, and (iii) at least one further slave device (e.g. replacement device) (Fig. 8, on p. 22; Fig. 9, on p. 23 and Improvement Plant Operations on p. 12), the method comprising the steps of:

connecting the at least one further slave device (Fig. 8, on p. 22; Fig. 9, on p. 23 and Improvement Plant Operations on p. 12), as the replacement device is connected, switching on a power source for the slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

the HART command being preprogrammed to cause the slave devices automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-23), as

the standard HART command transferred in the multidrop system would initiate the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: switching off a power source ... ; transmitting the HART command ... , obtain an identical address not equal to zero; and changing the identical addresses for the slave devices to a unique address for each slave device.

About HART: Part 1 teaches a system and a method of adding slave device (e.g. Field Instrument) comprising resetting of the system as the devices are reset (page 10), wherein the resetting would include the switching off of the power source following by the switching on of the power source.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include About HART: Part 1's resetting into HART, Field Communication Protocol, Application Guide's multidrop system for the benefit of properly operating the system in accordance to the HART communication protocol to enable proper communication and operation of the devices within the HART system as to obtain the invention as specified in claim 2.

HART, Field Communication Protocol, Application Guide and About HART: Part 1 do not expressly teach the method comprising: transmitting the HART command ... , obtain an identical address not equal to zero; and changing the identical addresses for the slave devices to a unique address for each slave device.



Andreas a system and a method comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, the HART command would be broadcast;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero;

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50) ; and

changing received address to a unique address for a module (col. 3, l. 28 to col. 4, l. 12).

Brooke teaches an automatic system and method comprising changing addresses for the modules to a unique address for each module (col. 2, ll. 19-53), in combination with Andreas' teaching, the identical address is changed to the unique address for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas,

col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 2.

6. As per claim 11, HART, Field Communication Protocol, Application Guide teaches a HART multidrop system, comprising:

- a plurality of slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23); and

- a master device having a power source for the slave devices, the slave devices being coupled to the at least one master device (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23);

- a control unit switching on the power source (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

- a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

- setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

- the HART command causing each of the slave devices connected to the at least one master device to be automatically switched to a multidrop mode (HART Multidrop Networks on pp. 22-23), as the standard HART command transferred in the multidrop system would initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: automatic configuration of the HART multidrop system; transmitting the HART command ... , receive an identical address not equal to zero; the identical addresses for the slave devices capable of being changed to individual addresses for each slave device; and wherein the power source is switched off before switching on the power source.

About HART: Part 1 teaches a system and a method of adding slave device (e.g. Field Instrument) comprising resetting of the system as the devices are resetted (page 10).

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include About HART: Part 1's resetting into HART, Field Communication Protocol, Application Guide's multidrop system for the benefit of properly operating the system in accordance to the HART communication protocol to enable proper communication and operation of the devices within the HART system as to obtain the invention as specified in claim 11.

HART, Field Communication Protocol, Application Guide and About HART: Part 1 do not expressly teach the method comprising: automatic configuration of the HART multidrop system; transmitting the HART command ... , receive an identical address not equal to zero; and the identical addresses for the slave devices capable of being changed to individual addresses for each slave device.

Andreas a system and a method comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, the HART command would be broadcast;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero;

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50) ; and

changing received address to a unique address for a module (col. 3, l. 28 to col. 4, l. 12).

Brooke teaches an automatic system and method comprising: automatic configuration of the system (e.g. HART multidrop system) (col. 2, ll. 12-16); and addresses for the slave devices capable of being changed to individual addresses for each slave device (col. 2, ll. 19-53), in combination with Andreas' teaching, the identical address is changed to the unique address for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas,

col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 11.

7. As per claims 3 and 12, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 further teaches the method and the system comprising before the switching off step (before the power supply is switched on), the control unit (e.g. HART controller) check if one of a supply voltage or a supply current for the slave devices is about zero (About HART: Part 1, Fig. 1.2 on p. 3), as the HART controller could have been utilized to sense the current level for properly implementing the resetting (e.g. On-Off-On).

8. As per claims 4 and 13, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein switching on step is performed by the control unit after a predetermined time interval after the switching off step (a switch off process) to ensure that one of a voltage and a current is not applied to the slave devices before the power source for the slave devices is switched on (About HART: Part 1, page 10), it would have been necessary to switch off for predetermined time interval to ensure that all the voltage or current in the system is sufficiently discharged for implementing the reset.

9. As per claim 5, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claim 2 as discussed above, where About HART: Part 1 further teaches the method comprising wherein, in the HART command, the pulling address has a value between 1 and 15 (e.g. 4 bit address) (About HART: Part 1, Overview: Addressing on pp. 13-14).

10. As per claims 6 and 14, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 and Brooke further teach the method and the system comprising wherein one of the transmitting step and the changing step, the unique address between 1 and 15 (e.g. 4 bit address) is entered for each slave device by an operator in an inquiry routine run by the control unit (About HART: Part 1, Overview: Addressing on pp. 13-14 and Brooke, col. 2, ll. 1-3).

11. As per claims 7 and 15, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 6 and 14 as discussed above, where Brooke further teaches the method and the system comprising wherein before entering of the unique address for a particular slave device, the control unit run a checking routine to determine if the particular slave device has already been configured and, if the particular slave device has been configured, the same address is again assigned to the particular slave device (Brooke, col. 2, ll. 19-53),

wherein the above detection would have been implemented via the monitoring of the particular slave device for a faster configuration process.

12. As per claims 8 and 16, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 7 and 15 as discussed above, where About HART: Part 1 and Brooke further teach the method and the system comprising wherein the checking routine involves the HART command being transmitted with an identifier for the particular slave device and a previously assigned address (About HART: Part 1, Overview: Addressing on pp. 13-14 and Brooke, col. 2, ll. 19-53), as the HART command would have been transferred with the existing addressing information including the identifier and the previous assigned address.

13. As per claims 9 and 17, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 6 and 14 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein, in addition to entering the unique address for a particular slave device, an identifier corresponding to the particular slave device (e.g. serial number) is entered (About HART: Part 1, Overview: Addressing on pp. 13-14).

14. As per claims 10 and 18, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 9

and 17 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein the identifier characterizing the particular device is a corresponding serial number of the particular slave device (About HART: Part 1, Overview: Addressing on pp. 13-14).

15. As per claim 19, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claim 11 as discussed above, where About HART: Part 1 further teaches the system comprising wherein, before switching on the power source, the power source is switched off (About HART: Part 1, page 10), as the resetting would include power source is switched off before switching on the power source.



### **III. CLOSING COMMENTS**

#### **Conclusion**

##### **a. STATUS OF CLAIMS IN THE APPLICATION**

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

##### **a(1) CLAIMS REJECTED IN THE APPLICATION**

Per the instant office action, claims 1-19 have received a first action on the merits and are subject of a first action non-final.

##### **b. DIRECTION OF FUTURE CORRESPONDENCES**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

#### **IMPORTANT NOTE**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.K.L./

September 05, 2008

Chun-Kuan (Mike) Lee  
Examiner  
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/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181